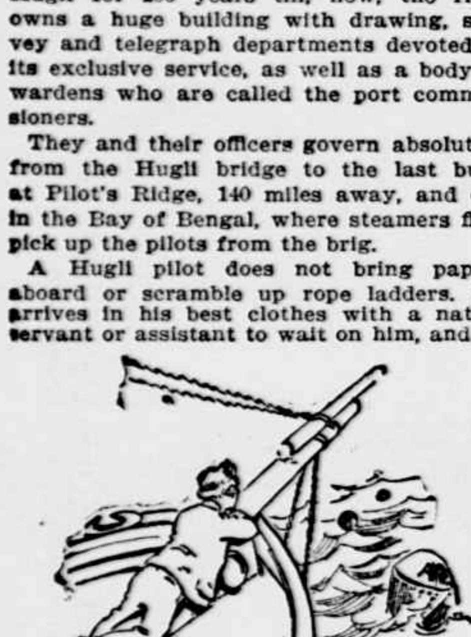
(Copyright by Bacheller, Johnson & Bacheller.)

Almost any pilot will tell you that his work is much more difficult than you imagine; but the pilots of the Hugli know that they have one hundred miles of the most dangerous river on earth running through their hands—the Hugli between Calcutta and the Bay of Bengal—and say nothing. Their service is picked and sifted as carefully as the bench of the Supreme Court, for a judge can only hang the wrong man, but a careless pilot can lose a four thousand ton ship with crew and cargo in less time than it takes to reverse the engines.

There is very little chance of getting off again when once you touch in the furious current of this river loaded with all the fat silt of the fields of Bengal, where soundings change two feet between tides and new channels make or efface themselves in a season. Men have fought the Hugli for 200 years till, now, the river owns a huge building with drawing, survey and telegraph departments devoted to its exclusive service, as well as a body of wardens who are called the port commissioners.

They and their officers govern absolutely from the Hugli bridge to the last buoy at Pilot's Ridge, 140 miles away, and out in the Bay of Bengal, where steamers first pick up the pilots from the brig.

A Hugli pilot does not bring papers aboard or scramble up rope ladders. He arrives in his best clothes with a native servant or assistant to wait on him, and he



Young Jim Would Lie in the Bow.

behaves as a man should who can earn $10,000 a year after twenty years' apprenticeship. He has beautiful rooms in the port office at Calcutta, and generally keeps himself to the society of his own profession, for though the telegraph reports the more important soundings of the river daily there is much to be learned between trip and trip.

Some millions of tons of shipping must find their way to and from Calcutta each twelve-month, and unless the Hugli were watched as closely as men watch the Atlantic cables there is a fear that it might silt up as it has silted up round the old Dutch and Portuguese ports twenty and thirty miles behind Calcutta. So the port office sounds and scours and dredges and builds spurs and devices for coaxing currents, labels all the buoys with their proper letters and attends to the semaphores and the lights and the drum, ball and cone storm signals, and the pilots of the Hugli do the rest, but in spite of all the care the Hugli swallows a ship or two every year.

When Martin Trevor had followed this life from his boyhood; when he had risen to be senior pilot entitled to bring up to Calcutta the big ships drawing over twenty-four feet that can (or could till a few years ago) only pass by special arrangement; when he had talked nothing but Hugli and pilotage all his life, he was exceedingly indignant that his only son should decide upon following his father's profession. Mrs. Trevor had died when the boy was a child, and as he grew older Trevor, in the intervals of his business, noticed that the lad was very often by the river side—no nice place for a boy. Once, when he asked him if he could make anything out of the shipping, little Trevor replied by reeling off the list of all the house-flags in sight at the moorings.

"You'll come to a bad end, Jim," said Trevor. "Little boys haven't any business to know house flags."

"Oh, Pedro at the Sailors' Home taught me. He says you can't begin too early."

"At what, please?"

"Piloting. I'm nearly fourteen now, and—and I know where all the shipping in the river is, and I know what there was yesterday over the Mayapur bar, and I've been down to Diamond harbor—oh, a hundred times—and I've——"

"You'll go to school, son, and learn what they'll teach you, and you'll turn out better than a pilot," said his father, but he might just as well have told a shovel-nosed porpoise of the river to some ashore and begin life as a hen. Jim held his tongue—he noticed that all the best pilots in the port office did that—and devoted his young attention and all his spare time and money to the river he loved.

Trevor's son became as well known as the Bankshall itself, and the port police let him inspect their launches, and the tug boat captains had always a place for him at table, and the mates of the big steam dredgers used to show him how the machinery worked, and there were certain native rowboats that Jim practically owned; and he extended his patronage to the rail that runs to Diamond harbor, forty miles down the river. In the old days nearly all the East India Company's ships used to discharge at Diamond harbor on account of the shoals above, but now ships go straight up to Calcutta, and they have only some moorings for vessels in distress there, and a telegraph service and a harbor master, who was Jim's intimate friend. He would sit in the office and listen to the soundings of the shoals as they were reported every day, and attend to the movements of the steamers up and down (Jim always felt he had lost something if a boat got in or out of the river without his knowing it), and when the big liners with their rows of burning port

Erh Tze Beat Him Down to One Twenty.

holes tied up in Diamond harbor for the night Jim would row from one ship to the other through the sticky, hot air and the buzzing mosquitoes and listen respectfully as the pilots conferred together. Once, for a treat, his father took him down clear out to the sand heads and the pilot brig, and Jim was joyfully sea sick as he tossed and pitched in the bay. So he had to go down three or four times more with friendly pilots till he had cured his weakness. The cream of life, though, was coming up in a tug or a police boat from Diamond harbor to Calcutta over the James and Mary—the terrible sands christened after a royal ship they sunk two hundred years ago. They are made by two rivers that enter the Hugli six miles apart and throw their own silt across the silt of the main stream so that with each turn of weather and tide the sands shift and change like a cloud. It was here (the tales sound much worse, when they are told in the rush and growl of the muddy waters), that the Countess of Stirling, 1,500 tons, touched and capsized in ten minutes; and a 2,000 ton steamer in two; and a pilgrim ship in five; and another steamer literally in an instant, holding down her men with the masts and shrouds as she lashed over. When a ship touches on the James and Mary the river knocks her down and buries her, and the sands quiver all around her and reach out under water and take new shapes.

Young Jim would lie up in the bows of the tug and watch the straining buoys kick and smother in the coffee-colored red current, and the semaphores and flags signal from the bank how much water there was in the channel till he learned that men who deal with men can afford to be careless on the chance of their fellows being like them; but men who deal with things dare not relax for an instant. "And that's the very reason," old McEwen said to him once, "that the James and Mary is the safest part of the river," and he put the big black Bandoorah that draws twenty-five feet through the eastern gate, with a turban of white foam wrapped round her foot and her screw beating as steadily as his own heart.

If Jim could not get away to the river there was always the big, cool port office, where the soundings were calculated and the maps were drawn; or the pilot's room, where he could lie in a long chair and listen to the talk about the Hugli; and there was the library, where, if you had money, you could buy charts and books of directions against the time that you actually steamed over the places themselves. It was exceedingly hard for Jim to hold the list of Jewish kings in his head, and he was more than uncertain as to the end of the verb "audio" if you followed it far enough down the page, but he could keep the soundings of three channels distinct in his head and, what is more confusing, the changes in the buoys from Garden Reach down to Saugor, as well as the greater part of the Calcutta Telegraph, the only paper he ever read.

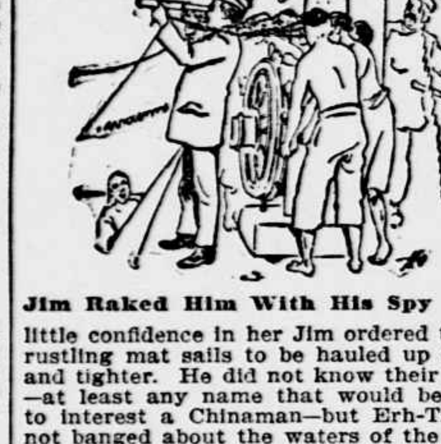
Unluckily, you cannot peruse about the Hugli without money, even though you are the son of the best-known pilot on the river, and as soon as Trevor understood how his son was spending his time he cut down his pocket money; and Jim had a very generous allowance. In his extremity he took counsel with Pedro, the plum-colored mulatto, at the Sailors' Home. And Pedro was a bad man. He introduced Jim to a Chinaman in Machuatellah, a nasty place in itself, and the Chinaman, who answered to the name of Erh-Tze, when he was not smoking opium talked pigeon English to Jim for an hour.

"S'pose you take. Can do?" he said at last.

Jim considered the chances. A junk he knew would draw about eleven feet, and the regular fee for a qualified pilot outward would be 200 rupees. On the other hand, he was not qualified, so he could not ask more than half. But, on the other hand, he was fully certain of a thrashing from his father for piloting without license. So he asked 175 rupees, and Erh-Tze beat him down to 120, and that was like a Chinaman all over. The cargo of his junk was worth anything from 50,000 to 100,000 rupees and Erh-Tze was getting enormous freight on the coffins of thirty or forty dead Chinamen whom he was taking to be buried in their native country. Rich Chinamen will pay fancy prices for their services, and they have a superstition that the iron of steamships is bad for the health of their dead. Erh-Tze's junk had crept up from Singapore, via Penang and Rangoon, to Calcutta, where Erh-Tze had been staggered by the pilot dues. This time he was going out at a reduction with Jim, who, Pedro said, was just as good as a pilot.

CHAPTER II.

Jim knew something of the outside of junks, but he was not prepared, when he went down that night with his charts, for the confusion of cargo and coolies and coffins and day-cooking places and other things that littered the decks. Jim had sense enough to haul the rudder up a few feet; he knew that a junk's rudder goes far below the bottom and he allowed a foot extra to Erh-Tze's estimate of the ship's depth. Then they staggered out into midstream very early, and never had the city of his birth looked so beautiful to Jim as when he feared he would not come back to see it. Going down Garden Reach he discovered that the junk would answer to her helm if you put it over enough and that she had a fair, though Chinese, notion of sailing. He took charge of the tiller by stationing three Chinese on each side of it, and standing a little forward, gathered their pigtails into his hands, three right and three left, as though they had been the yoke lines of a rowboat. Erh-Tze almost smiled at this. He felt he was getting good care for his money, and took a neat polished bamboo to keep the men attentive, for he said this was no time to teach the crew pigeon English. The more way they could get on the junk the better would she steer, and as soon as he felt a



Jim Raked Him With His Spy Glass.

little confidence in her Jim ordered the big rustling mat sails to be hauled up tighter and tighter. He did not know their names—at least any name that would be likely to interest a Chinaman—but Erh-Tze had not banged about the waters of the Malay archipelago for nothing, and as he went, he rolled forward with the bamboo the sails rose like eastern incantations.

Early as they were on the river a big American kerosene ship was ahead of them in tow,and when Jim saw her through the driving morning mist he was thankful. She would draw all of seventeen feet, and if he could steer by her they would be safe. It is one thing to scurry up and down the James and Mary in a police tug without responsibility, and quite another to cram a hard-mouthed old junk across the same sands alone, with the certainty of a thrashing if you came out alive. Jim glued his eyes to the American and saw that at Fultah she dropped her tug and stood down the river under sail. He all but whooped aloud, for he knew that the number of pilots who preferred to work a ship through the James and Mary without a tug was strictly limited. "If it isn't father it's Dearsley," said Jim, "and Dearsley went down yesterday with the Bancoora. If I'd gone home last night instead of going to Pedro I'd have met father. He must have got his ship quick, but—father is a very quick man." Then Jim reflected that they kept a piece of knotted rope on the pilot brig that stung like a wasp—but this thought he dismissed as beneath the dignity of an officiating pilot who need only nod his head to set Erh-Tze's bamboo at work. As the American came round, just before the Fultah sands, Jim raked her with his spyglass and saw his father on the poop with an unlighted cigar between his teeth. That cigar, Jim knew, would never be smoked on the other side of the James and Mary, and Jim felt so entirely safe and happy that he lit a cigar on his own account. This kind of piloting was child's play! His father could not make a mistake if he tried; and Jim with his six faithful pigtails in his two hands had leisure to admire the perfect style in which the American was handled—how she would point her bowsprit jeeringly at a hidden bank as much as to say, "Not today, thank you, dear," and bow down lovingly over a buoy, as much as to say, "You're a gentleman, at any rate," and come round sharp on her heel with a flutter and a rustle and a slow steady swing something like a woman staring round a theater through opera glasses.

It was not hard work to keep the junk near her, though Erh-Tze set everything that was by any means settable and used the bamboo very generously. When they were almost under her counter and a little to the left, Jim would feel warm and happy all over, thinking of the nautical and pilotic things he knew. When they fell more than half a mile behind he was cold and miserable, thinking of all the things that he did not know or was not quite sure of. And so they went down, Jim steering by his father, turn for turn, over the Maepur bar with the semaphores on each bank signaling the depth of water, through the Western Gat and round the Makoaputti Lumps and in and out of twenty places each more exciting than the last, and Jim nearly pulled the six pig tails out for pure joy when the last of the James and Mary had been left astern and they were walking through Diamond harbor. From there to the mouth of the Hugli things are not so bad, at least that was what Jim thought, and held on till the swell from the Bay of Bengal made the old junk heave and snort and the river broadened into an inland sea, with islands only a foot or two high scattered about it. The American walked away from the junk as soon as they were beyond Kedgeree, and the night came on and the water looked very big and desolate, so Jim promptly anchored somewhere in the gray water, with the Saugor light away off toward the east. He had a great respect for the Hugli and no desire whatever to find himself on the Gaspar sand or any other little shoal. Erh-Tze and the crew highly approved of this piece of seamanship. They set no watch, lit no lights and at once went to sleep. Jim lay down between a red and black lacquer coffin and a little live pig in a basket. As soon as it was light he began studying his chart of the Hugli mouth and trying to find out where in the river he might be. He decided to be on the safe side and wait for another sailing ship and follow her out. So he made an enormous breakfast of rice and boiled fish while Erh-Tze lit firecrackers and burned gilt paper with ostentation. Then they heaved up their rough and tumble anchor and made after a big, fat, iron four-masted sailing ship heavy as a hay wain. The junk, which was really a very weatherly boat and might have begun life as a private pirate in Annam thirty years ago, followed under easy sail, and the four-master would run no risks. She was in old McEwen's hands and she waddled about like a broody hen, giving each shoal wide allowances. All this happened near the outer Floating Light, some hundred and twenty miles from Calcutta and apparently in the open sea. Jim knew old McEwen's appetite and had often heard him pride himself on getting his ship to the pilot brig between meal hours, so he

He's a Resourceful Lad.

argued that if the pilot brig was getable (and Jim himself had not the ghost of a notion where she would be) McEwen would find her before 1 o'clock. It was a blazing hot day and McEwen fidgeted the four-master down to Pilots' Ridge with what little wind remained, and, sure enough, there lay the pilot brig, and Jim felt cold up his back, as Erh-Tze paid him his hundred and twenty rupees, and he went overside in the junk's crazy dinghee.

McEwen was leaving the four-master in a long slashing whaleboat that looked very spruce and pretty, and Jim could see that there was a certain amount of excitement among the pilots on the brig. There was his father, too. The ragged Chinese gave way in a ragged fashion, and Jim felt very unwashed and disreputable when he heard the click of McEwen's oars alongside, and McEwen saying: "James Trevor, I'll trouble you to come along with me."

Jim obeyed, and from the corner of one eye watched McEwen's angry whiskers stand up all round his face like the frill of a royal Bengal tiger, while his face turned purple and his voice shook.

"An' is this how you break the regulations o' the port o' Calcutta? Are ye aware o' the penalties ye've laid yourself open to?"

Jim said nothing. There was not very much to say, and McEwen roared aloud: "Man, ye've personated a Hugli pilot, an' that's as much to say ye've personated me! What did yon fellow heathen give you for an honorarium?"

"Hundred and twenty," said Jim.

"An' by what manner o' means did ye get through the James an' Mary?"

"Father," was the answer. "He went down the same tide—and I—we steered by him."

McEwen whistled and choked; perhaps it was with anger. "Made a stalkin' horse o' your father. Jim, boy, he'll make an example o' you."

The boat hooked the brig's chains and McEwen said, as he rolled on deck:

"Yon's an enterprising cub o' yours,Trevor. Ye'd better put him to the regular business or one o' these fine days he'll be acting as pilot before he's qualified and sinkin' junks in the Fairway. If ye've no other designs I'd take him as my cub, for there's no denyin' he's a resourceful lad, for all that he's an unlicked whelp."

"That," said Trevor, reaching for Jim's left ear, "is something we can remedy," and he led him down below.

The little knotted colt that they kept for general purposes on the pilot brig stung like hornets, but when it was all over Jim was an unlicked cub no longer. He was McEwen's property, and a week later when the Ellora came along he bundled over the side with McEwen's enameled leather handbag and a roll of charts and a little bag of his own.

AN INSIDIOUS VICE.

Gambling is More Dangerous Than Drunkenness to Business Integrity.

From the St. Louis Globe-Democrat.

"Gambling is the skulking, poisonous foe to business integrity," said an experienced business man. "You can see the signs of drunkenness," he said, "and guard against being damaged by a drinking partner or employe,but more often than not you know nothing of the gambler's downward progress until your losses tell the tale. I have seldom seen a case in which the habit of gambling did not have the companion habit of lying. The lying gets worse as the gambling becomes confirmed. Your gambling associate comes along with such a cheerful mask of falsehood that you are indignant when somebody intimates that he is treading the dangerous path of dalliance with cards or horses.

"Some years ago I had a little experience which I've no doubt many merchants can duplicate. I was a managing partner in a branch of one of the most extensive houses in St. Louis. We had a salesman whom we valued highly. It came to our knowledge that he was falling in love with poker. I said that he must be warned. The other partner thought he was all right, but consented to the warning. In a few months the man collected a bill and lost the money at poker. I then insisted on reporting a discharge to the main firm, but my partner stuck to his faith in the man's promises. Finally we compromised by retaining the delinquent on condition that my partner notify the firm that he would be personally responsible for losses caused by a repetition of the occurrence. We also sent to every customer a notice that all bills should be paid directly to our headquarters.

"Before six months had passed the salesman managed to collect a bill of $1,500, and lost every dollar.

"My partner took the money out of his pocket and reimbursed the firm. It is not necessary to tell anybody who knows gamblers that he never received a cent from the man he had befriended.

"The preacher and the lawmaker may grade other vices as more heinous, but the merchant and the banker who know what is good for them are more afraid of gambling than of anything else."

REPAIRING AN OCEAN CABLE.

Delicate Work, for Which Wonderful Instruments Have Been Invented.

From the New York Morning Advertiser.

It is said that one submarine cable is laid at a depth of 18,000 feet. But there are at least three cables working at a depth of nearly 17,000 feet, and four in about 16,000. The vast majority lie in water about 12,000 feet deep or less. Repairing a cable is hard work. The apparatus has also to be at once sensitive and strong. As is generally known, the repairing steamer proceeds to the point where calculation shows the break or damage to have happened, and then lowers a grapnel, which it slowly drags across the route of the cable at right angles. As soon as a tension on the grapnel rope is noted, due to catching the cable it has hooked, great pains have to be taken lest the precious treasure-trove slip off at any stage of its journey up to daylight. Special grapnels have been devised for this important work. In one of the latest the prongs project from a hood like the claws of a crab or turtle. Should any of them come in contact with rock on the bottom of the sea they recede within the shield sufficiently to let the grapnel glide over the obstruction. The writer has seen chunks of prehistoric granite as big as one's fist brought up by a clogged grapnel from more than 1,000 fathoms of water. In this new grapnel the prong, if it has hooked a bight of cable, will still hold on when it retracts into the shell.

Looking Forward.

From Town Topics.

"Fly," he implored.

The maiden pressed his hand to her lips.

"Fly, I beseech"—

And he strove to push her from the room.

"—you. I hear mamma coming in her heavy walking boots."

Even as he spoke a dark form appeared in the door and swore violently, after which there was the sound of conflict, and the beautiful boy was weeping alone.

ELECTRIC STEALING

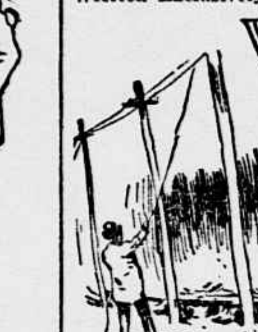
How the Telegraph and News Companies Are Victimized.

THE OLD WAY AND THE NEW

Stories Illustrating the Ingenuity and Fertility of the Tapper.

AN UNSUCCESSFUL BUSINESS

Written Exclusively for The Evening Star.



WITH THE RECENT introduction of a bill in the United States Senate by Senator Chandler of New Hampshire to penalize wire tapping, the first step was taken to place electric stealing under the ban of the law. At present, and until Senator Chandler's bill becomes a law, the telegraph companies' only resource is to have the "tappers" arrested for trespassing. The penalty under that law is so small that it has had little effect upon the evil doers, and, as a consequence, attempts to steal electricity are of almost weekly occurrence.

The recent extraordinary exposures made in Chicago regarding the stealings from the Associated Press by means of wire tapping have resulted in a movement to prevent thefts of news in the future by wire tapping, and Senator Chandler's bill is the result. It was quite a different matter to steal stock quotations and racing returns from the Western Union Telegraph Company, than to arouse the wire of the big news association, and when the latter was made to feel the full effects of this evil they immediately set to work to stop it.

When the telegraph companies tried to prosecute wire tappers under the trespass law, the latter would generally take refuge behind the plea that the racing news was aiding a gambling scheme, and in the hands of a shrewd lawyer their case generally triumphed. In the case of the present bill, the full penalty will keep a transgressor in jail for about five years, unless he has the $2,000 to pay the fine, a state of things not at all likely, as the guilty one generally goes into the scheme owing to the lack of funds.

Takes an Expert.

A large proportion of those who attempt to tap wires make miserable failures. And it is because of their gross ignorance. Sixty per cent of the operators in all large offices cannot set up and work a common set of telegraphic instruments, taking the wires from the time they come into the office until they take battery or go out again.

Yet with a great part of this class the idea of wire tapping emanates. They think they know all about it, and when some of them unfold their schemes an electrician has to smile at their simplicity. They do not recognize the difference between an instrument of four ohms and one of 100 ohms, and upon the subject of galvanometers and Wheatstone bridges they are completely lost. This class of telegraphers may have been successful fifteen or twenty years back, but with the improved apparatus they are never successful.

The old-fashioned, original wire tapper selected as his scene of operations a pole set back as far as possible from the highway or railroad, over which the line-repairers passed when looking for wire trouble. If the pole was partially hidden by trees the tapper was correspondingly gratified, as it lessened the chances of discovery. Waiting until night he strapped on his climbers, threw his tool sack over his shoulder and walked up the pole as easily as a fly goes up a window pane. Reaching the crossarm he produced his strap and vise, which, as its name denotes, is a small but powerful vise, with serrated teeth, attached to a looped strap eight or ten feet long. Getting a good hold with his vise on the wire which he wished to tap, he buckled his strap around the crossarm and pulled in the slack of the wire until he had six inches or a foot to spare. Then with his plyers or nippers he cut the wire short off between the vise and the insulator. The wire did not fall because the strap and vise had a firm grip on it.

An Improvised Office.

The tapper next let in a section of non-conductor, such as a piece of gum-covered wire, making the splice outside of the covering, so that no connection was made between the line wire and the newly set in piece. If the covered wire was not at hand he used a scrap of rope or clothesline, anything, in fact, that gave the wire a look of continuity without being a conductor of electric fluid. That was the scientific way. If he was in a hurry or short of material he simply took a hitch around the glass insulator by the tie wire. There was, however, no connection between the two ends. The wire was, in telegraphic phraseology, open in either case.

Of course the tapper did not allow the wire to remain open long. That would have excited suspicion. He made what is known as a half connection to keep the wire closed while he continued his operations. He had in his tool sack a coil of fine copper wire covered with dark silk, so that it was invisible more than a few feet away. One end of this coil he attached to the line wire on one side of the piece of non-conductor he had set in; the other end he connected to the tapped wire at a point beyond the non-conductor. Then he knocked off his half-connection, for the circuit was completed through the coil of copper wire.

Having taken off the strap and vise after inserting the non-conductor, he is all ready to descend. The coil of copper wire, which may be a mile in length, but very light and small in compass, he threw to the ground and rapidly followed it himself. All he had to do then was to walk off, carrying his coil of fine wire and paying it out as he moved until he reached the spot where he had established his telegraph office. Sometimes it was a deserted shanty in the woods, occasionally it was under a culvert beneath the railroad tracks, or it might be only a relay box instrument in a fence corner behind a clump of bushes. Wherever it was he could hear everything that went over the wire; could ground it in either direction, and could, by using proper precaution, transmit telegrams as if coming from any point along the line, to suit his purpose.

What Worries the Tappers.

The new-fashioned wire tapper, to be successful, must be a thorough electrician, beside a Morse operator of the very first class. A poor sender would be picked out immediately upon his trying to transmit a message, and a receiver of the same sort could not interpret the dots and dashes as they fly from the key of an expert.

There are several ways a wire can be tapped, all depending upon how it is worked, whether single, duplex or quad. There is one system that would rather worry most any electric pilferer, however, and that is the Wheatstone automatic. But as this system is almost entirely used in the far west mere mention will suffice. Under that system fully 200 words a minute are sent, and, of course, human ability cannot cope with that record.

The single wire is, of course, the simplest way of telegraphing in use, consequently the easiest to interfere with, being only common, old-style instruments. Then there are the duplex systems of different patterns, all requiring sets of a like nature to make them work, such as the Stevens, "Polar," D'Infreville, and others. Next comes the quadruplex, which means four men at each end of a wire, all working at the same time. But the latter system, although a complicated one, can be tapped under certain circumstances.

The knowledge necessary would be to know the mileage resistance of that particular wire, the exact mileage where the tapper wishes to operate, an accurate amount of resistance to be used on each side of the intruding set, a corresponding amount of battery necessary to have the same strength, and most essentially a complete set of quadruplex instruments for the work, together with eight competent men to work it successfully. This is a very intricate and expensive piece of work, but, to the backers of a scheme of this kind, expense does not cut any figure if they can get the right sort of men to stand by them.

Even When Underground.

When the wires were placed underground the telegraph officials congratulated themselves that their quotations and news were at least safe within city limits. But the tapper soon discovered that it was a good deal easier and safer to tap underground cables than to tamper with overhead wires.

This revelation came to the telegraph officials like a shock. They had fondly imagined that the underground system was absolutely safe, but the wily tapper was keeping right up with the procession. He not only found a way to get at the strands of the cable, but he also advanced in science, so that he no longer had to open a wire or loop it in for tapping purposes. He worked by induction, and needed only one wire instead of a loop to steal the desired intelligence.

Up to this time the electric pilferer had to have one wire leading from the tapped line to his instrument and another one back to complete his circuit. Under the improved system he hitched one wire on to the main line and ran it to what is known as a condenser. There he ended it within a fraction of an inch of another wire, which ran through a delicately constructed telegraph instrument to the ground. The leakage or induction obtained by this method was sufficient to operate the instrument.

It is not often that one telegraph company will deliberately tap the wires of a rival concern in order to steal news, but it is said that right here in Washington it has been done. It happened during the Baltimore and Ohio and Western Union telegraph war some years back. The former was trying to gain a foothold, but was barred out of the stock exchanges, race tracks and base ball parks. Of course, at such times, matters shape themselves so that the word "hustle" is the bright particular one in the telegraph manager's lexicon. The stock exchanges tabooed bucket shops and forbade the Western Union furnishing them with quotations. Consequently this class of customers had to turn to the Baltimore and Ohio for relief.

Whenever a bucket shop was known to be in receipt of the markets strenuous efforts were made to discover the source of its supply, and sleuths were hired to unearth the wires and destroy them. It took several weeks for the Western Union officials to find out the method by which one bucket shop was getting the markets. They could see an operator sitting at his table, with a pair of telephone sounders glued to his ears, but where he obtained his news was for a long time a mystery. They searched high and low for the origin, but were compelled to acknowledge defeat, and the bucket shop continued to receive quotations until the Baltimore and Ohio was "gobbled" up by the Western Union, when the plan was unfolded to the puzzled officials of the latter company.

How It Was Done.

A private wire, running into the quotation room of a legitimate stock broker on F street, had been tapped, and connections made with a set of dead wires that for a long time had been abandoned. These were picked up and connected with other wires running north, until they terminated in an office on G street, where a sounder was inserted. From the telephone company a private wire was rented, running from the office on G street to the bucket shop near the legitimate stock broker's on F street, where the operator, by affixing the telephone sounders to his ears, was able to hear every click of the sounder, which was placed directly in front of the transmitter in the office on G street. As fast as the quotations were received he jotted them down and passed the slip over to a boy, who chalked them up on a blackboard. It was a cute device, and one well worthy of its originator. Of course, the office on G street was kept strictly private, no one being allowed to enter but those in the scheme.

SENTIMENT AND SEPULTURE.

Decided Views in Regard to the Disposal of Bodies.

From the London Spectator.

It is certain that a great majority among us do care about the disposal of our bodies. In every part of Europe the "resurrectionist," who was once regarded by scientific men of high character as a useful member of society, is looked upon with as much abhorrence as a cannibal, and if caught at his grewsome trade would infallibly need energetic protection from the police to save his life, and in many countries would not get it. The horror of being dissected after death rises with many men to a mania, and has repeatedly inspired legislative acts, drawn with a punctilious desire at once to forward the knowledge of surgeons and to respect a feeling too strong to be dealt with by any kind of argument. Millions of Christian men and women would be horrified at the idea of lying in unconsecrated ground, though not one of them could say clearly what was the difference between one side of the cemetery, provided it were equally protected from desecration, and the other.

Every day good and pious men pick out the spot in which they should prefer to be buried, or leave the most earnest instructions not only that a certain spot shall be chosen, but that, if it be possible, the same spot shall be selected when the hour shall strike for the dearest of those who survive—a singular, yet, as we all feel, a natural, interference with their equal right of selection. We have known at least a dozen men penetrated with a wish to be buried in a country graveyard, a grove, a garden, anywhere except in a suburban cemetery—a feeling which this particular writer, even while his reason repudiates it with scorn, acknowledges to be in his very blood and bones. The feeling of the very poor is different, being concentrated on the avoidance of a pauper funeral; but among the cultivated probably more than half form and express a distinct wish as to the place and method of their own interment, and would feel acutely if, for any reason, that request was refused—which it never is, though we have known personally at least one case in which such a request involved immense expense and something very like elaborate lying, in order to conceal from a superstitious crew the burden they were involuntarily escorting to the grave. Men wish to be interred as their forefathers were, and say so oftentimes in wills with some peremptoriness and intention to compel.

THE GIRL OF THIRTEEN.

Unless She Has Care She Will Make a Forlorn Woman.

From the New York Sunday Advertiser.

The girl of thirteen is the future woman and a very important parcel of humanity. She is a child and just growing into womanhood, and this transition which to grown-ups means only a sudden shooting up beyond all bounds, and a tendency to stooped shoulders, is much more to the girl who leaves childhood behind and is not yet a young lady. Fast growing is a very great drain on any child's strength, and as at thirteen she usually has considerable mental work at school, both mind and body are called upon to do double work. That is why she needs care.

Good food, rest and congenial company are some of the things which are necessary for the girl of thirteen. She should not have too much excitement, or books to read which tax her thoughts too much, as her mind develops only too quickly at this age, and everyday life and lessons are enough to occupy her. She should go to bed early and sleep ten hours. For breakfast she should eat strengthening, bone-making food, oatmeal, oranges, brown bread, eggs and milk. For her midday meal she should have something more sustaining than a bread and butter lunch, if she is to grow up into a strong woman. Hot soup and a chop and a baked potato every day for three months will make her stand up straighter than braces will.

She should have a walk in the open air every day; if she does not get this she will grow nervous and sleepless, have fantastic notions about an early grave and running away from home, or worse still, grow sentimental and write morbid little verses and weep over the poor. These are all true symptoms of the girl of thirteen. She begins to think she is very old as soon as she gets into her teens, and the responsibilities affect her sensitive new mind to an appalling degree—if she is given time to think of them.

WOMEN DRUMMERS.

A Comparatively New Field, but the Sex is Winning Success.

From the New York Sunday Advertiser.

Women drummers are becoming more plentiful every day, and they are successful, too. One has but to go to the firms employing these "ladies of the grip" to learn that their sales are equally as large as, if not larger than, those of the sterner sex. This field for women is comparatively new, but already so many bright and clever young women have entered into it who have met with phenomenal success it will not be long until they will stand equal chances with the "knights" who have for so long monopolized this particularly well paying business. And we have not far to go in looking for a reason for all this. In the first place, a woman is bound to gain recognition, simply because she is a woman, for it is the hardest thing in the world for a man to refuse a request made by a woman, especially if the woman be young and pretty. And before he knows it, he is placing an order!

In many branches, such as in selling corsets, waists, perfumery, millinery, toilet articles, etc., a woman is in her element, and it is second nature for her to dilate and expand on the salient features of such of these articles as she may be selling. As a rule, these ladies are quick at repartee, brimming over with original good humor and have a knowledge of men's weaknesses.

"Oh, yes; they have come to stay," said a drummer the other day, "and it will not be long before the many men holding these lucrative positions will be forced to look for other employment. We'll not be 'in it' in a short time. Why, I know personally twenty women who are making more sales and getting better salaries than I am, and I have been in the business fifteen years, and am traveling for one of the largest silk houses in the country. They are smart, far-sighted and quick to read human nature, and every one of them is a perfect lady. And, by Jove! some of them are actually pretty, too."

TEETH OF SCHOOL CHILDREN.

Some Statistics Which Show That They Are Much Neglected.

From the American Medical Association Journal.

In one school of 700 pupils, 500 from ten to eighteen years of age, I distributed printed slips with the following questions: Do you cleanse your teeth with a brush every day? Do you cleanse your teeth with a brush twice a day? The teachers requested the pupils to answer the questions by writing the word yes or no to each question. The slips were immediately gathered up. On summing up it was ascertained that out of 500 pupils 50 cleaned their teeth twice a day; 275 used a brush sometimes, while 175 did not own a brush. Notice, the ages were from ten to eighteen. In the primary department of 200 pupils, from six to ten years of age, the teachers said they did not think there were 10 children in the department who used a tooth brush.

This school is not an exceptional one in this matter, as further inquiry and investigation demonstrated. In fact, its graduates take high rank at our universities, and if there is any difference it is in advance of most schools in percentage of those who have clean mouths, as well as neat clothes and bright faces.

When there is so much neglect and so little real care of the mouth it is not at all strange that the sixth-year molars have to be sacrificed daily, because the parents cannot go to the expense of treatment to have them preserved, thinking all the time that this valuable tooth is deciduous, and soon to be replaced by one that is bacteria proof and will last forever in a mouth that has never been properly cleaned.

The school of 700 pupils mentioned, where only 50 made any pretense to regular care for the teeth, shows what a field for instruction and training every teacher has. What an opportunity for philanthropy and missionary work!

Our children's teeth must be saved. Experience has taught us that it is impossible to repair the ravages of decay, except in a limited degree. Prevention through cleanliness and proper care of the teeth is the only way possible and practicable to limit the wholesale destruction.

A Rough Retort.

From the Boston Transcript.

Fenderson—"I got my education at Harvard."

Fogg—"And forgot it where?"

The School Boy of 1994.

From Fliegende Blatter.

SECRET OF OLD AGE.

Difference of Opinion Among Those Who Have Lived Many Years.

From the Popular Health Magazine.

The famous French scholar and politician, M. Barthelemy Saint-Hilaire, who recently entered on his ninetieth year full of physical and intellectual vigor, has been writing in the British Medical Journal how it is that his days have been so long in the land. It is, we are told, the effect of strict adherence to the old precept, "early to bed and early to rise," with steady work during waking hours. Every grand old man seems to have a secret of his own. Mr. Gladstone, we believe, attributes his longevity to his habit of taking a daily walk in all weathers and to his giving thirty-two bites to every morsel of food. Oliver Wendell Holmes pinned his faith on equability of temperature. The late Maj. Knox Holmes swore by the tricycle, which, in the end, was the cause of his death. Dr. P. H. Van der Weyde, an American octogenarian, not long ago offered himself "as an example of the benign influence of the study and practice of music." Some aged persons give the credit of their long lives to abstinence from tobacco, alcohol, meat or what not; others to their indulgence in all these things. One old lady, of whom we read not long ago as having reached the age of one hundred and twenty or thereabouts, maintained that single blessedness is the real elixir vitae, and she ascribed the death of a brother at the tender age of ninety to the fact that he had committed matrimony in early life. M. Ferdinand de Lesseps believed in horse riding. Carlyle was also a great rider almost to the end of his long life, and he not only rode, but, we believe, groomed his horse himself. On the whole, it must be concluded that the real secret of longevity is a sound constitution prudently husbanded.

BOARDED BY A CASK.

A Strange Incident While Lying To Off Cape Horn.

From the Morning Oregonian.

City Physician Wheeler has two bottles of claret of uncertain age and still more uncertain flavor, which he delights in offering to his friends, not because of the fine quality of the wine, but because it gives him a chance to tell again a story of the sea that is a little out of the ordinary. The claret is put in lime bottles, such as may be found aboard any long-voyage vessel, and, while its most pronounced flavor is a cross between lime juice and salt water, there is still a "smack" in it that reminds one that it must have been at one time prime "stuff." Dr. Wheeler was presented with the bottles by Capt. Dexter of the British ship Samaritan, which recently left this port in cargo for Liverpool, and the captain told the following story of how he came by them:

"In the fall of '93 we were bound from Liverpool to Shanghai in ballast, and were nearing the Horn, when a big storm overtook us. We hove to and drifted about 1,000 miles off shore. The storm was one of the worst I have ever experienced in twenty years of seafaring life, and one dark night, when big seas were breaking over us, a big burley fellow from the forecastle came aft, knife in hand, and walked directly up to me. I thought for a minute that mutiny was aboard, and, drawing my revolver, ordered him to stand back. But I soon saw he was terribly frightened, and, with chattering teeth, he told me that a frightful-looking object was floundering about amidships.

"I went with him to see it, and, sure enough, whenever a wave struck us a huge black body glowing in the phosphorescent blaze of the tropics, could be seen floundering about on deck. I soon ascertained that it was lifeless, and then proceeded to investigate. It proved to be nothing but a huge wine cask, every stave of which was encrusted with barnacles, and it had probably been left on deck by a receding wave. Visions of dead bodies buried at sea in casks loomed up before me as I lashed the trophy to the rigging, to await daylight before investigating.

"When the storm cleared away I tapped the cask, and by means of a long iron rod ascertained that there was nothing but liquor in it. I drew off some of the stuff and tried it on two Portuguese sailors aboard. They pronounced it prime, so we all took a taste. After that I drew off all the wine and stored it in these lime bottles, the only thing I had handy. The cask I placed in the British museum at Shanghai, for it was a real curiosity. The chances are that cask of claret was thrown overboard from some wreck, and it must have floated about in mid-ocean for three or four years at least before it came aboard us. Barnacles do not form on floating wood in less time than that, and the cask was so covered with them that not a bit of the wood was visible."

Disappointed Travelers.

From the Boston Transcript.

"About half the people on this ship are going back to America with sad hearts," said a German on board a westward-bound German steamer one day last summer. "We have, most of us, been back to Germany to see our old friends, and we are disappointed because they all seemed more eager to know how much money we made in America than glad to see us."